

REMARKS

In accordance with the foregoing, the claims 11, 28 and 34 have been amended and new claims 37-41 have been added. Therefore, claims 1-8, 10-12, 14-21, 23, 24, 26-41 are pending and under reconsideration, which is respectfully requested.

No new matter has been added and accordingly, entry and approval of the claims 11, 28, 34 and 37-41 are respectfully requested.

STATUS OF THE CLAIMS:

Claims 1-8, 10-12, 14-21, 23, 24, and 26-36 are pending.

Claims 1-8, 10, 12, 14-21, 23, 24, 26, 27, 29, 31, 35 and 36 are allowed.

Claims 11, 30 and 32-34 are rejected.

Claim 28 is objected.

Claims 11, 28 and 34 are amended.

Claims 37-41 are added.

ITEMS 1-2: REJECTION OF CLAIM 34 UNDER 35 U.S.C. 112, SECOND PARAGRAPH AS BEING INDEFINITE FOR FAILING TO PARTICULARLY POINT OUT AND DISTINCTLY CLAIM THE SUBJECT MATTER.

To make claim 34 overcome the rejection under 35 U.S. C. 112, second paragraph, applicants amended the claim 34 as follows:

34. (Currently Amended) A gas diffusion electrode for brine electrolysis comprising a gas diffusion layer and a reaction layer, said reaction layer comprises the electrode catalyst according to claim 11, wherein the electrode catalyst acts at a cathode for an oxygen reduction reaction.

~~The electrode catalyst of claim 11, wherein the electrode catalyst is suitable for an oxygen reduction reaction at a cathode in conjunction with a gas diffusion electrode for brine electrolysis.~~

The evidence for disclosure of claim 34 can be found on page 27, lines 4-7, and Figure 4 of the specification. Accordingly, the rejection of claim 34 should be withdrawn.

ITEMS 3-4: REJECTION OF CLAIMS 11, 30, and 32-34 UNDER 35 U.S.C. 103(a) AS BEING UNPATENTABLE OVER NARA ET AL. (6312571) IN COMBINATION WITH FUND ET AL. (4136213).

In order to overcome the rejection under 35 U.S.C. 103(a), the applicants add a feature of the **particulate rare-earth oxide has a particle diameter of 500nm or less** into the current independent claim **11**.

The Examiner asserts that **Nara et al.** disclose an activated cathode comprising an electrically conductive substrate, an interlayer comprising a nickel oxide formed on the surface of the electrically conductive substrate, and a catalyst layer containing at least one lanthanum component selected from an oxide or hydroxide of lanthanum metals and at least one platinum component selected from platinum metals and silver and oxides and hydroxides thereof form on the interlayer. The mixing ratio of the "platinum metal" to the "lanthanum metal" is 40:60 to 80:20 by mol%.

The Examiner also asserts that **Fung et al.** disclose the use of carbon as a catalyst support for numerous chemical and electrochemical reactions.

However, neither **Nara et al.** nor **Fung et al.** disclose and/or suggest the effective limitation of the particle diameter of rare-earth oxide. This particle diameter may facilitate the oxygen reduction activity (see column [0038] of the specification).

Therefore, the subject matter as a whole would not have been obvious to one of ordinary skill in the art at the time the instant invention was made, even if the teachings of the **Nara et al.** patent were combined with the teachings of the **Fung et al.** patent.

Accordingly, the applicants respectfully submit that an obviousness rejection cannot be based on **Nara et al.** in combination of **Fung et al.** and allowance of the pending independent claim **11**, as well as depending claims **28, 30, and 32-34** are respectfully requested.

ITEMS 5-7: ALLOWABLE SUBJECT MATTER

The applicants appreciate that the Examiner allowed the claims **1-8, 10, 12, 14-21, 23, 24, 26-29, 31, 35, and 36** over the prior art of record.

REGARDING NEW CLAIMS OF 37-41

As recited in the Listing of the Claims, New independent claim **37** comprising a conductive carrier comprises carbon powder, a mixture **directly** supported on the conductive carrier.

On the other hand, **Nara et al.**, as admitted by the Examiner, discloses an activated cathode comprising an electrically conductive substrate, an interlayer comprising a nickel oxide formed on the surface of the electrically conductive substrate, and a catalyst layer containing at least one lanthanum component and at least one platinum component formed on the interlayer. This is described throughout the whole specification as well as in the claims of **Nara et al.** In this prior art, an interlayer of $\text{Ni}_{(1-x)}\text{O}$ is essentially required to be located between the electrically conductive substrate and the catalyst layer. From the standpoint of the recitation of the specification and the claims, the interlayer is formed on the surface of the electrically conductive substrate and also in contact with the catalyst layer.

However, contrast with constitution of **Nara et al.**, the present invention of claim 37 is clearly different because it does not claim interlayer between the conductive carrier and the mixture. More specifically, new claim **37** recites that the mixture of the noble metal and the rare-earth oxide is supported **directly on** the conductive carrier. In **Nara et al.**, the catalyst is formed directly on the interlayer. The catalyst is not formed directly on a conductive carrier.

In addition, **Fung et al.** disclose the use of carbon as a catalyst support for numerous chemical and electrochemical reactions. However, neither **Nara et al.** nor **Fung et al.** disclose and/or suggest the mixture of the noble metal and the rare-earth oxide is supported directly on the conductive carrier.

Therefore, the applicants believe that this language distinguishes the claim **37** from **Nara et al.** and destroys a link leading to the present invention from **Nara et al.** in combination with **Fung et al.** The secondary reference, **Fung et al.** only teaches the utility of carbon as a catalyst support for chemical reactions.

Accordingly, the subject matter as a whole would not have been obvious to one of ordinary skill in the art at the time the instant invention was made, even if the teachings of the **Nara et al.** patent were combined with the teachings of the **Fung et al.** patent, and allowance of the independent claim **37**, as well as depending claims **38-41** are respectfully requested.

CONCLUSION

Thus, it is believed that all rejections and objections have been removed, and the present application is now in condition for allowance.

Reconsideration and early favorable action on the claims are earnestly solicited.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

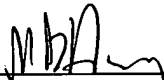
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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